

Energy Snapshot St Vincent and the Grenadines

This profile provides a snapshot of the energy landscape of St Vincent and the Grenadines— islands between the Caribbean Sea and North Atlantic Ocean, north of Trinidad and Tobago. St Vincent’s utility residential rates start at \$0.26 per kilowatt-hour (kWh), which is below the Caribbean regional average of \$0.33/kWh. Like many island nations, St Vincent and the Grenadines is highly dependent on imported fossil fuels, leaving it vulnerable to global oil price fluctuations that directly impact the cost of electricity.

Population¹	102,918
Total Area¹	389 sq. km
Gross Domestic Product (GDP)¹	\$1.198 billion U.S. Dollars (USD)
Share of GDP Spent on Fuel and Imports	Electricity – 5.2% ² Total – 10.0% ³
GDP Per Capita¹	\$11,640 USD
Urban Population Share¹	50.2%

Electricity Sector Data

St Vincent Electricity Services Ltd. (VINLEC) generates, transmits, and distributes electricity in St. Vincent and the Grenadines’ islands of Bequia, Union Island, Canouan, and Mayreau. The other Grenadines islands of Palm and Mustique are supplied by privately owned electricity systems using diesel plants as part of their resorts.⁹ VINLEC has an installed generation capacity of 58.3 megawatts (MW), of which 5.6 MW comes from three hydropower plants, with the remainder made provided by diesel generators.⁸ However,



St Vincent and the Grenadines’ Renewable Energy Goal:
60% by 2020⁴

Government and Utility Overview

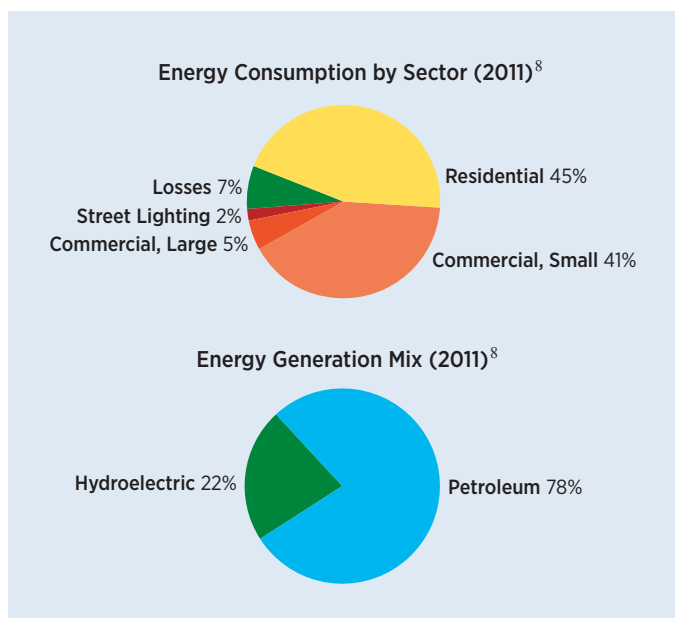
Government Authority	Ministry: Energy Unit, Ministry of National Security, Air and Sea Port Development ⁵	
	Key Figure: Leonard Deane ⁷	
Designated Institution for Renewable Energy	Energy Unit, Ministry of National Security, Air and Sea Port Development ⁵	
Regulator	No domestic regulatory agency ⁸	
Utilities	Name: St Vincent Electricity Services Ltd. ⁸	State-owned, vertically integrated utility ⁸

available capacity is reduced to just 2 MW during the dry season.¹⁰ The existing diesel generators are aging, providing an opportunity to increase renewable energy and the efficiency of fossil-fired units.⁴ The total annual consumption in 2011 was 140.71 gigawatt-hours (GWh), only 7.4% of which was lost to transmission and distribution losses.⁸

VINLEC tariffs include a unit cost per kilowatt-hour, a minimum base charge for domestic and commercial consumers, a demand charge for commercial and industrial customers, and a fuel surcharge per kilowatt-hour that varies monthly depending on fuel costs. Residential, commercial, and industrial customer tariffs are on an inverted block rate starting at \$0.26/kWh.¹¹

Electricity Sector Overview

Total Installed Capacity (2011)⁸	48.3 MW (St. Vincent) 10 MW (Grenadines)	
Peak Demand (2011)⁸	21.1 MW	
Total Generation (St. Vincent Only-2011)⁸	140.708 GWh	
Renewable Share (St. Vincent Only-2011)⁸	22%	
Transmission & Distribution Losses (2011)⁸	7.4%	
Electrification Rate (2010)¹²	73.2%	
Average Electricity Tariffs (USD/kWh)¹¹	Residential	\$0.22-\$0.29
	Commercial	\$0.29-\$0.31
	Industrial	\$0.26-\$0.25
	Public Lighting	\$0.32



Existing Policy and Regulatory Framework^{4, 15}

Renewable Energy	
Feed-in Tariff ¹⁴	● In Place
Net Metering/Billing ¹⁴	● In Place
Interconnection Standards	■ In Development
Renewables Portfolio Standard/Quota	
Tax Credits	■ In Development
Tax Reduction/Exemption	■ In Development
Public Loans/Grants	■ In Development
Green Public Procurement	
Energy Efficiency	
Energy Efficiency Standards	■ In Development
Tax Credits	■ In Development
Tax Reduction/Exemption	● In Place
Public Demonstration	● In Place
Restrictions on Incandescent Bulbs	● In Place
Appliance Labeling Standards	■ In Development
Targets	
Renewable Energy	● In Place
Energy Efficiency	● In Place

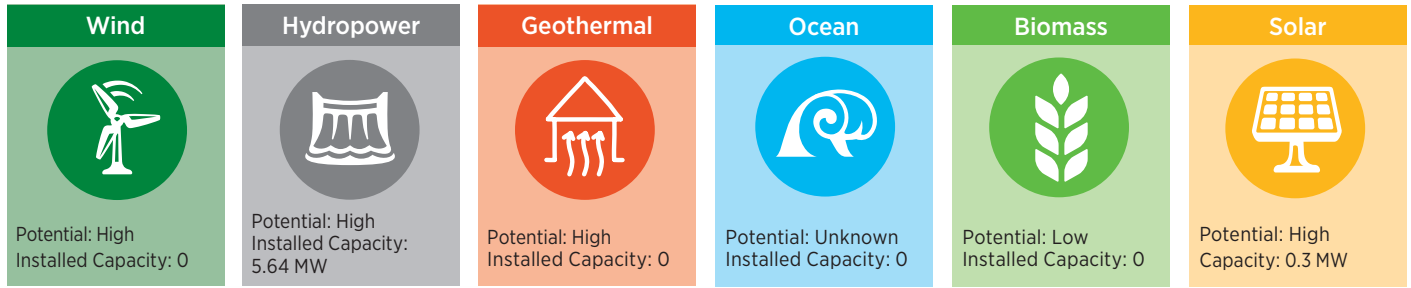
● In Place ■ In Development

Clean Energy Policy Environment

Established in 2009, the National Energy Policy (NEP) of St. Vincent and the Grenadines provides a plan for the energy sector in the country that addresses sustainability issues. This document was followed in 2010 by the National Energy Action Plan (NEAP), which consolidated policies into actionable steps. NEAP addressed short-, medium-, and long-term actions for energy planning and management, the power sector, renewable energy, the petroleum sector, and energy efficiency. In NEAP, the country identified a goal of generating 30% of all electric output from renewable energy sources by 2015 and 60% by 2020.⁴

St. Vincent and the Grenadines plans to allow generation of electricity from renewable sources by independent power producers while also developing a net-metering scheme for small-scale renewable energy generators.⁴ No standardized interconnection policies or procedures currently exist for distribution generation interconnections; however, small-scale renewable energy generators, particularly those owned by residential and commercial customers, can be interconnected

Renewable Energy Status and Potential⁷



by arrangement with the utility.¹³ Residential renewable generators are compensated for exported generation at \$0.17/kWh under a net billing program, while commercial systems are compensated for all energy produced under a \$0.17/kWh feed-in tariff.¹⁴ Energy efficiency in electricity generation and consumption is promoted in both NEP and NEAP through energy audits, fiscal incentives, awareness programs, and efficiency standards. NEAP also targets reduced projected electricity generation by 5% by 2015 and 15% by 2020.⁴

Energy efficiency public awareness campaigns promoted in NEAP were implemented by the government to raise awareness and promote energy-efficient behaviors among government employees in the workplace.¹⁰ A 100% excise tax and 15% value added tax were placed on incandescent lights, while compact fluorescent lamps were exempted from both of these taxes.¹⁰ NEAP also recommended import and sales of domestic appliances in accordance with rules of the European Appliance Label or U.S. ENERGY STAR[®] programs.¹⁰

Energy Efficiency and Renewable Energy Projects

About 22% of the electricity generated for St. Vincent and the Grenadines comes from renewable sources, primarily hydropower. The first hydropower plant was commissioned in 1952 at South Rivers and the most recent at Cumberland in 1988. A study found the potential for an additional 1.1 MW of hydropower at the South Rivers and Richmond power stations.⁸

Wind and solar potential are both estimated to be high, with average wind speeds measured at 8.1 m/s at Argyle (St. Vincent)¹⁶ and strong average insolation.⁸ In 2008, VINLEC requested proposals for developing a 6-8 MW

wind park at Ribishi Point on St. Vincent Island,¹⁶ but the solicitation was downscaled to 3 MW.⁸ The island has 14 grid-connected photovoltaic (PV) systems with a total installed capacity of about 300 kilowatts (kW), of which 263 kW is owned by VINLEC and the government in St. Vincent and the Grenadines.⁸ There are approximately 24 kW of residential and commercial distributed PV systems connected to the grid in St Vincent and an additional 14 kW of systems in Bequia.

Caribbean Power conducted potential studies for geothermal resources from 1996 to 2000 and identified 100-890 MW of geothermal potential in the country.¹⁰ Preliminary studies conducted by the National Renewable Energy Laboratory in 2012 assessed existing geothermal resources and found pyroclastic deposits mantling the Soufriere volcano as potential hydrothermal reserves.¹⁶ The study also identified the rugged topography of the island and geohazards as significant challenges in geothermal exploration, drilling, and construction.¹⁶

Opportunities for Clean Energy Transformation

St Vincent and the Grenadines has benefited from early investment in utility-scale hydropower. The expansion of renewables will be critical in diversifying the islands' energy generation mix. Wind and solar energy have high deployment potential due to high average wind speeds and strong annual insolation.⁸ Geothermal energy has high potential in the region, and the government has already undertaken studies to develop, explore, and exploit these resources for electricity generation.¹⁰ With the existing push to streamline net metering regulations, allow independent power producers, and establish financing mechanisms, these renewable resources can be exploited to their full potential.

Energy Transition Initiative

This energy snapshot was prepared to support the Energy Transition Initiative, which leverages the experiences of islands, states, and cities that have established a long-term vision for energy transformation and are successfully implementing energy efficiency and renewable energy projects to achieve established clean energy goals.

Through the initiative, the U.S. Department of Energy and its partners provide government entities and other stakeholders with a proven framework, objective guidance, and technical tools and resources for transitioning to a clean energy system/economy that relies on local resources to substantially reduce reliance on fossil fuels.



¹ <https://www.cia.gov/library/publications/the-world-factbook/geos/vc.html>.

² Divided diesel fuel prices from http://vinlec.com/uploads/userfiles/VINLEC_ANNUAL_REPORT_2010.pdf by 2010 GDP at PPP http://siteresources.worldbank.org/DATASTATISTICS/Resources/GDP_PPP.pdf.

³ Divided value from <http://comtrade.un.org/data/> by 2012 GDP at PPP from <https://www.cia.gov/library/publications/the-world-factbook/geos/vc.html>.

⁴ http://grein.irena.org/UserFiles/casestudies/SVG_energy_action_plan_2010.pdf.

⁵ http://www.security.gov.vc/index.php?option=com_content&view=article&id=87&Itemid=139.

⁶ http://www.security.gov.vc/index.php?option=com_content&view=article&id=89&Itemid=138.

⁷ http://www.credp.org/Data/CREDP-GIZ_Interconnection_Report_Final_Oct_2013.pdf.

⁸ http://www.www.gov.vc/images/stories/pdf_documents/svg%20nation%20energy%20policy_approved%20mar09.pdf.

⁹ http://www.ecpamericas.org/data/files/Initiatives/lccc_caribbean/LCCC_Report_Final_May2012.pdf.

¹⁰ <http://www.vinlec.com/contents/electricity-rate-structure>.

¹¹ <http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS>.

¹² <http://www.vinlec.com/contents/customer-micro-generator-interconnection>.

¹³ <http://bpva.org.uk/media/107431/solar-pv-in-the-caribbean.pdf>.

¹⁴ http://www.caribbeanelections.com/eDocs/strategy/vc_strategy/vc_national_energy_policy_2009.pdf.

¹⁵ http://www.credp.org/Data/CAWEI_Wind_Survey_Report.pdf.

¹⁶ NREL Resource Assessment, 2012, Unpublished.